Office of the State Fire Marshal
Prevention Division

Summer 2017

PREVENTION Highlights

In This Issue

Enjoy Your Fireproof Summer

PREVENTION Highlights

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Our Mission

The Office of the State Fire Marshal (OSFM) is dedicated to protecting lives and property from the hazards of fire or explosion and will promote prevention, educational and investigative activities to mitigate incidents, promote life safety and deter crimes.

The Fire Prevention Division

The goal of the Fire Prevention Division is to reduce the potential impact of fire and explosion hazards where people live, work and congregate (other than one– or two-family dwellings) through code enforcement, inspections, plans review, licensing, and public education.

Prevention Highlights

Prevention Highlights is published quarterly to provide facility managers and others with information necessary to operate fire-safe facilities.

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Edu-Note by Joel

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It has been a busy year at the OSFM and with summer being in full swing, things will continue at that busy pace. I recently returned from the 2017 Kansas Adult Care Executives Joint Provider Fire Marshal Workshops in Topeka and Wichita. There was a great turnout with well over 100 attendees at each workshop. These workshops provided in-depth training on the 2012 LSC and the changes that CMS (Centers for Medicare and Medicaid Services) has recently enacted. These changes will be explained in this newsletter.

In other OSFM news, we have recently hired two employees, an inspector and an enforcement officer. They will be starting very soon and we are excited to have them join our Prevention team. We are still looking to hire an FPS (Fire Protection Specialist). If you or somebody you know is interested in joining our team, please visit our website (https://firemarshal.ks.gov/about-the-office/career-opportunities) to learn how to apply.

Summer is also time to renew propane licenses for 2017-2018. Propane licenses issued under the Kansas Propane Safety and Licensing Act must be obtained and renewed each year. All propane licenses expire on September 30, 2017 and the open renewal period is June 15, 2017 through July 15, 2017. CETP training and additional training is now available through Kan-PERC for a limited time ONLY. These courses will be offered at multiple locations in Kansas. Please view the course and schedules at http://www.propaneinkansas.org/ or call 785-354-1749 to register.

RENEWING YOUR LICENSE

1. **Billing Summary (REQUIRED TO BE RETURNED)**

This is a current look at your existing licenses. Please double-check the summary to make sure there are no mistakes. Any items that are not correct need to be noted directly on the billing summary and/or on the Propane License Change Form that is available on our website at www.ksfm.ks.gov under the Form Zone tab.

2. **Renewal Information Form (REQUIRED TO BE RETURNED)**

Provides information to OSFM regarding method of communication preferred by company and requested changes to be made to existing licenses.

3. **Training Requirements (REQUIRED TO BE RETURNED)**

Proof of successful completion training for each employee. Also send in current Refresher Training certificates.

4. **Proof of Current Insurance (REQUIRED TO BE RETURNED)**

-Joel Beckner, Education Consultant

Facility laundry fires are one of the most common incidences reported in health care facilities. Most of these are associated with the dryer. Commercial dryers have all the ingredients needed to start a fire: heat, fuel, and air. The Office of the State Fire Marshal would like to remind all facilities of the following safety precautions.

1. Whenever dryers are in use, the laundry must be staffed, and staff shall be knowledgeable of who is using the dryer and what its contents are. A clothes dryer should never be left unattended while operating.

2. Preventive maintenance should be performed on all dryers, including:

- The temperature probe must be clean and functioning properly. Some models of commercial clothes dryers have a temperature probe inside the drum or a box that controls the upper temperature cut-off switch. When the temperature probe is covered with lint, it acts as an insulator, preventing heat transfer. If this happens, the dryer can continue to supply heat to the load in the dryer, to the point of ignition.
- The thermostat control must be maintained, and staff will understand the proper drying time and temperature for each load.
- Lint should not be allowed to build up in the dryer case, exhaust pipes or traps. Staff must inspect and clean all lint after each day's use of the dryers. Staff should verify daily that air is exhausted through the exhaust prior to using the dryers. If lint accumulates on sprinkler heads, heat detectors, or anywhere outside the dryer exhaust system, there is a problem which needs to be checked by a mechanical contractor. Lint should not accumulate on the building exterior (roof, wall, or ground).

3. Dryers shall only be used by knowledgeable staff who understand the following:

- NEVER dry rubberized material, or material which may contain cleaning solvents, such as, mop heads or rags. (The most common cause of dryer fires) Dryers should not handle clothing, rags, or mop heads previously cleaned or soaked in flammable or combustible materials such as gasoline, degreasers, or flammable chemicals such as floor wax. Cooking oils and greases should also be kept out of a dryer because of the threat of combustion.
- Know what time and temperature setting is needed for different materials, such as cotton, wool, or synthetic fabric.
- Maintain a preventive maintenance log. Report any problem to maintenance for repair.
- Know the manufacturer's safety precautions for your dryer.
- When hot, dry material is removed from the dryer into a cart, process it quickly, so heat does not build-up in the cart.
- Know how to use laundry safety equipment, know your facility's fire plan, and practice fire drills.

4. Gas fueled dryers must have the proper amount of combustion air and intake grills shall be kept clean and clear. This prevents incomplete combustion, which produces carbon monoxide gas. The laundry and adjacent spaces should be equipped with carbon monoxide detectors.

The following K-Tags are provided for reference:

K100

NFPA Standard: 2012 NFPA 101, 19.1.1.3.1 All health care facilities shall be designed, constructed, maintained, and operated to minimize the possibility of a fire emergency requiring the evacuation of occupants.

Most would say no but in the case of potting soil it really can be. People have a preconceived notion that potting soil is mostly dirt with some nutrients added in. Potting soils often contain peat moss, coir fiber (coconut fiber), and composted pine bark. All three ingredients are flammable. Potted plants are especially vulnerable to fire when the soil dries out. Add in a plant that has dried out from lack of water and the ignition probability increases quickly.

With dry conditions just waiting for a spark, the last thing that should be added to the mix are cigarettes. Extinguishing cigarettes into potted plants has caused at least 18 fires in Kansas since 2001, damaging a total of 125 apartment units and 6 houses. The Kansas Fire Incident Reporting System does not contain specific ignition codes for potting soil combined with smoking. The 18 fires were located using a narrative search for "potting soil" and "potted plant" but narratives aren't required. Because narratives may not be available, this type of fire may be more prevalent than stated here.

Extinguishing cigarettes in potted plants has caused at least 18 fires in Kansas

Q&A
Generator Remote Stop Switch

When it comes to generators, one of the top questions that we get at the OSFM is "What are the requirements for the remote stop switch." In the 2010 edition of NFPA 110, 5.6.5.6-5.6.5.6.1 it says: "All installations shall have a remote manual stop station of a type to prevent inadvertent or unintentional operation located outside the room housing the prime mover, where so installed, or elsewhere on the premises where the prime mover is located outside the building. The remote manual stop station shall be labeled." In addition to this reference, there is one more reference in the code: Appendix A.5.6.5.6 "For systems located outdoors, the manual shutdown should be located external to the weatherproof enclosure and should be appropriately identified." With the code referenced now, let's explain things in a little more detail.

A. Remote location means that it shall be located remote from the generator, so it is protected from the impact of adverse generator conditions. The owner and designer determine the location. For example:

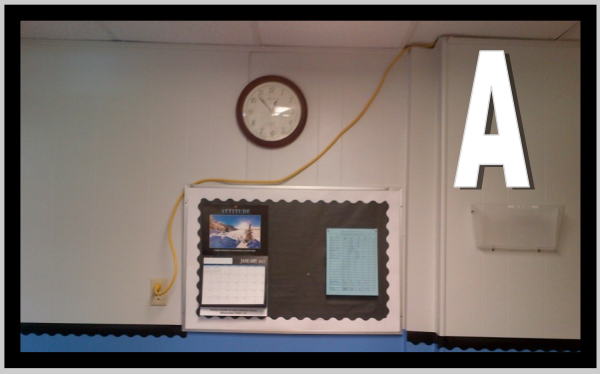
   1. For generators located within a building, the remote stop station must be located in a different room than the generator and be separated by a wall and door.

   2. For generators located outside, the remote stop station must be located anywhere outside of the generator enclosure.

B. The code does not limit the quantity of remote stop stations to one. Multiple remote stop stations may be provided, but at least one must satisfy the minimum requirements of the code.

Hopefully this will clarify some of the confusion. If you have any questions, feel free to contact me at 785-296-0659 or email me at joel.c.beckner@ks.gov.

SPOT the violations



A

B

C

D

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Learning from History

Lessons from the Iroquois Theater tragedy

IN THE THEATER, DOORS LOCKED, PANIC, FIRE, AND DEATH.

History can be our greatest teacher in all different situations -- from personal life, sports, government, and even in the way fire codes are changed and developed.

For an example, let us consider the 1903 Iroquois Theater Fire. This historic theater in downtown Chicago was thought to be the most beautiful theater in Chicago, drawing men, women and children to attend. Not only was the building amazingly beautiful, but it was billed as "absolutely fireproof" in advertisements and playbills.

Sadly, this was not the case. On December 30th, the theater was extra-crowded. The performance was sold out, with hundreds more standing room tickets sold. During the performance, sparks from an arc lamp ignited the curtain. The fire quickly spread from there and the packed theater goers tried to escape the "fireproof" theater. Some of the exit doors opened inwards preventing everybody from being able to escape. The exit doors were unmarked, many covered by curtains. 27 of the 30 exit doors were locked to prevent gate crashers. There was no phone, no fire alarm, and no sprinklers. This tragedy killed 602 people making it one of the deadliest fires in American history.

It is important that we learn from disasters like this. The Fire Code was updated to make sure that clear exit passageways are maintained in all facilities now. Although not blocking exits is in the code, we all know storage can be an issue in some facilities. Recently, our inspectors have seen an increased amount of egress routes being blocked by boxes, equipment, wheelchairs and other random things. So when walking through your facility, please make sure that if there are objects blocking exits doors, move them right away and please train staff to be aware of this rule as well.

A guide to Power Strips for Medical Facilities

By Joel Beckner, Education Consultant

It is important to understand that there is not a single type of power strip that is suitable for every application in your facility. Each type of power strip has a specific purpose and should not be used for a purpose other than what it is designed and approved.

Power strips (including surge protectors) can be divided into four primary application groups that use different technologies and meet varying UL standards. They can also be divided into medical-grade power strips, i.e. power strips that meet the requirements of medical equipment, and those that do not. Medical-grade power strips meet UL 60601-1 or UL 1363A and they can be used in the "patient care vicinity." Power strips that do not meet UL 60601-1 or UL 1363A cannot be used in the patient care vicinity. The patient care vicinity is defined as a "space within a location intended for the examination and treatment of patients, extending 1.8 m (6ft) beyond the normal location of the bed, chair, table, treadmill or other device that supports the patient during examination and treatment and extending vertically to 2.3 m (7 ft. 6 in.) above the floor." NFPA 99 2012 3.3.139

Medical-Grade Power Strips

(Approved for Use in the Patient Care Vicinity)

- Tested to comply with UL 60601-1.
- Can be used inside or outside the Patient Care Vicinity.
- Protect patients and staff in the event of a single fault.
- Include splash-resistant receptacle covers that require a tool for access to prevent use of receptacles by unqualified personnel.
- Include hospital-grade plug and receptacles.
- Typically power medical or computer equipment.

Medical-Grade Power Strips for Mobile Applications

(Approved for Use in the Patient Care Vicinity)

- Tested to comply with UL 1363A.
- Can be used inside or outside the Patient Care Vicinity.
- Require permanent mounting (not removable without a tool) to mobile medical equipment platforms, such as IV poles and crash carts.
- Require dual breakers.
- Include hospital-grade plug and receptacles.

Power Strips for Administrative Areas and Operating Rooms with Isolation

(NOT Approved for Use in the Patient Care Vicinity)

- Tested to comply with UL 1363
- Cannot be used in the Patient Care Vicinity.
- Include hospital-grade plug and receptacles.

Surge Protectors for Administrative Areas

(NOT Approved for Use in the Patient Care Vicinity)

- Tested to comply with UL 1449.
- Cannot be used in the Patient Care Vicinity.
- Provide surge protection for connected equipment.
- Include hospital-grade plug and receptacles.

Profile in PREVENTION

Get to know The Boiler Safety Unit

The Boiler Safety Unit transferred from the Department of Labor to the Office of the State Fire Marshal July 1, 2013. The unit consists of a Chief Boiler Inspector (currently unfilled), 5 Deputy Boiler Inspectors and 1 Senior Administrative Assistant. The Boiler Safety Unit is part of the Prevention Division.

A boiler is anything that is anything that is defined by the Boiler Safety Code; at times the unit may look like an over-grown water heater.

The Boiler Safety Unit is assisted by 14 boiler insurance companies that complete 12 month, 36 month and 1 time inspections on units across the state. There are over 7,000 locations with 21,000 active units across the state. All initial inspections must be completed by State Boiler Inspectors, not insurance inspectors. In an average year, boiler inspectors inspect over 14,000 units.

The Senior Administrative Assistant processes 100-200 invoices per week for inspection fees and certificate fees. Invoices and certificates are emailed or mailed out weekly.

The process of getting a certificate:

1. You are first inspected by a boiler inspector, either an insurance inspector or state inspector.

2. Insurance inspections are reviewed by state boiler inspectors.

3. An invoice is generated with a deficiency notice (if applicable).

4. Invoice is sent to the owner.

5. Invoice is paid and deficiency is corrected. All deficiency repairs/ correction must have pictures and/ or a repair invoice from the repairing company submitted.

6. Certificate is generated and sent to facility contact.

Important CMS Changes

By Joel Beckner, Education Consultant

CMS has made a handful of changes that will take effect July 5, 2017. The first of these changes is in the 2010 edition of NFPA 80 – Standard for Fire Doors and Other Opening Protectives pertaining to the requirements for all fire -rated door assemblies to be inspected and maintained by a qualified person. 5.2.1 states at least annually.

3.3.95 Qualified Person. A person who, by possession of a recognized degree, certificate, professional standing, or sill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with the subject matter, the work, or the project.

5.2.3 Functional Testing. 5.2.3.1 Functional testing of fire door and window assemblies shall be performed by individuals with knowledge and understanding of the operating components of the type of door being subject to testing.

Here are some key things to remember:

- Is the door and frame free from holes and breaks in all surfaces?

- Are all the glazing, vision light frames and glazing beads intact and securely fastened?
- Are the doors, hinges, frame, hardware and threshold secure, aligned and in working order with no visible signs of damage?
- Are there missing or broken parts?
- Is the clearance from the door edge to the frame no more than 1/8 inch?
- Is the door undercut no more than ¾ inch?
- Does the active door leaf completely closes when operated from the full open position?
- Does the active door leaf close before the active leaf when a coordinator is used?
- Does the latching hardware operate and secure the door in the closed position?
- Is the door assembly free from are auxiliary hardware items which could interfere with its operation?
- Has the door been modified since it was originally installed?

- If gasketing and edge seals are installed, have they been verified for integrity and operation?

The next change comes from the 2012 edition of NFPA 99 – Health Care Facilities Code and the requirement to train personnel who work with medical gases.

Annual Documentation will be required to be seen by the inspector

11.5.2.1 Qualification and Training of Personnel

11.5.2.1.1 * Personnel concerned with the application and maintenance of medical gases and others who handle medical gases and the cylinders that contain the medical gases shall be trained on the risks associated with their handling and use.

11.5.2.1.2 Health care facilities shall provide programs of continuing education for their personnel.

11.5.2.1.3 Continuing education programs shall include periodic review of safety guidelines and usage requirement for medical gases and their cylinders.

11.5.2.1.4 Equipment shall be serviced only by personnel trained in the maintenance and operation of the equipment.

11.5.2.1.5 if a bulk cryogenic system is present, the supplier shall provide annual training on its operation.

The final change that CMS has introduced is directed once again to th 2012 edition of NFPA 99 – Health Care Facilities Code and the requirements for receptacle, main and circuit breaker testing maintenance:

6.3.3.2 Receptacle Testing in Patient Care Rooms

6.3.3.2.1 The physical integrity of each receptacle shall be confirmed by visual inspection.

6.3.3.2.2 The continuity of the grounding circuit in each electrical receptacle shall be verified.

6.3.3.2.3 correct polarity of the hot and neutral connections in each electrical receptacle shall be confirmed.

6.3.4.1 Maintenance and testing of Electrical System

6.3.4.1. 1 Where hospital-grade receptacles are required at patient bed location and in location where deep sedation or general anesthesia is administered, testing shall be performed after initial installation, replacement, or servicing of the device.

6.3.4.1.2 Additional testing of receptacles in patient care rooms shall be performed at intervals defined by documented performance data.

6.3.4.1.3 Receptacles not listed as hospital-grade, at patient bed locations and in locations where deep sedation or general anesthesia is administered, shall be tested at intervals not exceeding 12 months.

6.3.4.1.4 The LIM circuit shall be tested at intervals of not more than 1 month by actuating the LIM test switch (see 6.3.2.6.3.6). For a LIM circuit with automated self-test and self-calibration capabilities, this test shall be performed at intervals of not more than 12 months. Actuation of the test switch shall activate both visual and audible alarm indicators.

6.3.4.1.5 After any repair or renovation to an electrical distribution system, the LIM circuit shall be tested in accordance with 6.3.3.3.2

6.4.4.1.2.1* Circuit Breakers. Main and feeder circuit breakers shall be inspected annually, and a program for periodically exercising the components shall be established according to manufacturer's recommendations.

As previously mentioned, these changes will take effect July 5th of this year. This is less than a month away, so please feel free to contact me by email at joel.c.beckner@ks.gov or by phone at 785-296-0659.

Answers to Spot the Violations (page 6)

A. Extension cord used as permanent wiring; B. Corroded sprinkler head; C. No step on means of egress; D. Blocking means of egress